

Materials List for:

The MODS method for diagnosis of tuberculosis and multidrug resistant tuberculosis

Mark F Brady¹, Jorge Coronel², Robert H Gilman³, David AJ Moore⁴

¹The Warren Alpert Medical School of Brown University

²Laboratorio de Investigacion de Enfermedades Infecciosas, Universidad Peruana Cayetano Heredia

³Department of International Health, Johns Hopkins Bloomberg School of Public Health

⁴Wellcome Trust Centre for Clinical Tropical Medicine, Imperial College London

Correspondence to: Mark F Brady at brady@post.harvard.edu

URL: <https://www.jove.com/video/845>

DOI: [doi:10.3791/845](https://doi.org/10.3791/845)

Materials

Name	Type	Company	Catalog Number	Comments
Refrigerator/ freezer	Equipment			to store pre-prepared broth and antibiotic stocks
Vortex	Equipment			to aid sputum decontamination
Centrifuge	Equipment			for sputum concentration; capable of reaching 3000 g; d-s not need to be refrigerated, but MUST be biosafe (buckets can be sealed)
Incubator (37 degree C)	Equipment			for culture; need not be CO2 enriched
Inverted light microscope	Microscope			to read MODS plates
Autoclave	Equipment			to sterilize media, PBS and used plates
Balance	Equipment			to weigh isoniazid, rifampicin and NALC
Middlebrook 7H9 broth (Difco)	Reagent	Fisher Scientific	DF0713-17-9	500gr/bottle; culture media base
Casitone (pancreatic digest casein)	Reagent	Fisher Scientific	DF0259#17#9	500gr/bottle; culture media base
Glycerol (glycerin) lyophilized	Reagent	Sigma-Aldrich	G#33#500	500ml/bottle; culture media base
PANTA (Antibiotic mixture lyophilized BD)	Reagent	Fisher Scientific	B4345114	6 bottles/pack; antibiotic media supplement
OADC (Middlebrook OADC enrichment BD)	Reagent	Fisher Scientific	B11886	10 x 20ml/pack; nutritional media supplement
Dimethyl sulphoxide (Hibri-Max)	Reagent	Sigma-Aldrich	D-2650	100ml/bottle; to prepare rifampicin stock
Antibiotic stocks: isoniazid	Reagent	Sigma-Aldrich	I-3377	50gr/bottle; direct susceptibility testing
Antibiotic stocks: rifampicin	Reagent	Sigma-Aldrich	R-3501	1gr/bottle; direct susceptibility testing
Sodium hydroxide (pellets)	Reagent	Sigma-Aldrich	221465	500gr/bottle; sputum decontamination
Sodium citrate (trisodium salt dihydrate)	Reagent	Sigma-Aldrich	S-4641	500gr/bottle; sputum decontamination
N-acetyl-L-cysteine	Reagent	Sigma-Aldrich	A-7250	50gr/bottle; sputum decontamination

Potassium Phosphate Monobasic crystal. KH ₂ PO ₄	Reagent	Sigma-Aldrich	P0662	500gr/bottle; sputum decontamination
Sodium Phosphate Dibasic, anhydrous. Na ₂ HPO ₄	Reagent	Sigma-Aldrich	S0876	500gr/bottle; sputum decontamination
Sodium hypochlorite	Reagent	household bleach		to discard contaminated waste
15ml centrifuge tubes (polypropylene 15ml Falcon 35#2096)	Consumable	Fisher Scientific	14#959#49B	500ea/case; for sputum decontamination and concentration
24 well plates (Plates Tissue 24 wells BD Falcon 35#3047)	Consumable	Fisher Scientific	08-772-1	50 plates/case; for culture and reading
Sealable polythene bags 6 X 6 " (ziplock)	Consumable			for biosecurity to contain 24 well plate
Glass tubes with lid (16 x 100mm and 18 x 145mm)	Consumable	VWR international	47729-583	500 tubes/case; to store aliquots of prepared broth
Screw cap microcentrifuge tubes (1.5ml)	Consumable	Fisher Scientific	05#669#22	1000ea/case; to store aliquots of antibiotic stocks
0.22µm filters (aqueous solvents) Syringe filter Millex blue	Consumable	Fisher Scientific	SLGL 025 OS	50 units/case; to filter antibiotic stocks
0.22µm filters (organic solvents) Syringe filter Millex yellow	Consumable	Fisher Scientific	SLGV 033 RS	50 units/case; to filter antibiotic stocks
Disposable Pasteur pipettes borosilicate glass 9"	Consumable	Fisher Scientific	13#678#20C	720ea/case; to mix PANTA with media mix
Aerosol barrier tips 1000# 1300µl	Consumable	Fisher Scientific	02#707#51	1000ea/pk; to dispense media into plate
USA Scientific Tips One 1# 200µl yellow tips	Consumable	Fisher Scientific	1111#0006	1000 tips/bag; to dilute antibiotic stocks